

REMARKS

Claims 1-75 were rejected under 35 U.S.C. §102 as being anticipated by Cain et al., U.S. Patent No. 6,798,761. Respectfully, this rejection is traversed.

As a preliminary matter, and with all due respect, the Office action is deficient as it only provides reasons for alleged anticipation as to a single claim, namely claim 1. In this regard, paragraph 3 of the Office action cites only the wording of claim 1 but then concludes that all 75 claims are anticipated. As can be seen from the above claim listing, the different claims of this application have significantly varying scope. In effect, the Examiner has conflated all 75 claims into claim 1 and, finding alleged anticipation of that one claim, the Examiner has concluded that all claims are anticipated. Rule 104(c)(2) requires more:

“[i]n rejecting claims for want of novelty or for obviousness, the examiner must cite the best references at his or her command. When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable. The pertinence of each reference, if not apparent, must be clearly explained and each rejected claim specified.”

Here, the Examiner has not shown how Cain is alleged to anticipate any of claims 2-75. For this reason alone, the rejection should be withdrawn, especially given the rigid requirement of MPEP § 2131, which provides that a “claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference.” While it is true the literal correspondence of the wording need not be shown, the “identical invention must be shown in as complete detail as contained in the ... claim.”

Cain describes a wireless system and associated scheduling technique that differs significantly from that of the subject disclosure here. In particular, in Cain, an individual wireless node schedules communications between it and another such node in a “peer-to-peer” manner. This notion is referred to as “distributed scheduling” as seen in this excerpt from column 5, lines 3-11:

“Distributed scheduling allows any two pair of wireless mobile nodes, such as 12a and 12b, for example, to schedule a semi-permanent time slot without having to communicate with any other wireless mobile node. In other words, there is no centralized master/slave type of coordination with all of the wireless mobile nodes 12a-12h for scheduling the semi-permanent time slots. Since the time slots among the wireless

mobile nodes 12a-12h are scheduled in a distributed fashion, there is no single point of failure in the wireless mobile communication network 10.”

In Cain, a communication link is formed directly between two mobile nodes, i.e., without a controller in-between through which communications transit. To set up a link, an initiating mobile node transmits a request for time slots to a receiving mobile node, and the receiving mobile node transmits a reply to the initiating mobile node. A controller in each mobile node is used to facilitate this link setup. In particular, a node detects a neighbor node and performs a link test. If the channel is good, the node assigns the neighbor node a “semi-permanent” time slot for use in communicating with the node.

Thus, in Cain, there is no notion of “real-time” scheduling, in that the time slots for the wireless communications are determined to be “semi-permanent.” The technique used is described at column 9, lines 32-44:

“The approach for scheduling time slots according to the present invention is based upon the following principles. First, a specified number of time slots are allocated as semi-permanent (SP) time slots scheduled for a given link. The rest of the available time slots (DA) may be allocated on a demand-assigned basis to those nodes/links that need them most. This allows flexibility in shifting the schedule on an as needed basis. Secondly, as discussed above, a limit on the maximum number of semi-permanently assigned time slots is established. This limit is a parameter that is selected based upon a specific network. This limit is also the upper limit on the number of allowable neighbor nodes, with a single SP time slot per node.”

Note that the “on-demand” time slots are actually scheduled periodically (on a “present schedule”), as described at column 24, lines 26-31, and not in “real-time.”

Further, and most importantly, in Cain a controller in a given wireless node uses interference metrics only to determine the identity of its neighbors (and thus the surrounding network topology) and, in particular, so it can determine whether it can add another node for communications; interference metrics are not used in Cain for scheduling communications. This is evident from the following excerpt from column 12, lines 17-21, which described the “topology control function” by which a node maps its neighbors:

“The topology control function can be a very straightforward function if it does not have to do topology optimization. The purpose of

this function is to take the list of nodes in [a] list, the information about the reliability of these links, and the information about the network topology, and use this information to determine which nodes on the [] list should become [] neighbors.”

Turning to the claims, the Examiner will note that independent claim 1 has been amended to emphasize these distinguishing features. In addition to the real-time measurement of interference metrics, the claim now also requires real-time scheduling, based on the interference metrics. Moreover, the amended claim further emphasizes the “centralized” scheduling aspect of the subject matter, by the following requirement:

“wherein the wireless communication node performs the real-time scheduling on behalf of the client nodes, and wherein wireless communications between a pair of client nodes transit through the communication node.”

Cain does not use a node that performs “scheduling on behalf of the client nodes,” and the system disclosed there does not perform “real-time scheduling” using measured interference metrics. Moreover, communications in Cain are peer-to-peer, and not through a “communication node” that performs the real-time scheduling. Thus, because Cain does not meet each and every limitation of amended claim 1, the reference cannot and does not anticipate.

Independent claim 29 has been amended to include the “real-time” scheduling aspects, and to further emphasize that “the real-time scheduling of downlink communications and uplink communications is performed by a wireless communication node through which communications over the wireless communication links transit.” Once again, these features are absent from Cain; thus, the reference does not anticipate claim 29.

Independent claim 45 has been amended to place the “real-time” scheduling using interference metrics within the context of a preferred wireless communication node that provides this functionality. Thus, the claim now recites “a base station controller distinct from a set of subscriber stations, wherein communications between subscriber stations transit through the base station controller and wherein the base station controller implements a synchronous point to multipoint (PTMP) protocol.” Cain does not include any such “base station controller” at least in part because all communications are peer-to-peer. Of course, for the reasons set forth above, Cain also does not meet the “real-time” scheduling using interference metrics function either. Thus, Cain does not anticipate claim 45.

Independent claim 52 has been amended to recite the “real-time” scheduling being performed by the “wireless communication node.” For the reasons set forth above, this claim is also patentable over Cain.

The dependent claims are not anticipated either, for the reasons advanced with respect to the parent independent claims.

The Examiner will note that dependent claims 6, 13, 19-20, 23-24, 31, 33-34, 47, 50-51, 59, 62, 65-66 and 73-74 have been amended solely to conform their language to the changes in the parent independent claims. No new matter has been included

A typographical error has been corrected in claim 30.

For the above reasons, reconsideration and favorable action are respectfully requested.

Respectfully submitted,

/David H. Judson/

By:

David H. Judson, Reg. No. 30,467

ATTORNEYS FOR APPLICANT